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PTO/SB/05 (4/98)
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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No. FC0807Q1

First Inventor or Application Identifier James E. McShane

Title Foot And Shoe Deodorant

Express Mail Label No. EL226882949US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

- ☒ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
- ☒ Specification [Total Pages 12]
(preferred arrangement set forth below)
 - Descriptive title of the invention
 - Cross References to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to Microfiche Appendix
 - Background of the invention
 - Brief Summary of the invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
- ☐ Drawing(s) (35 U.S.C. 113) [Total Sheets]
- Oath or Declaration [Total Pages 2]
 - ☐ Newly executed (original or copy)
 - ☒ Copy from a prior application (37 C.F.R. § 1.63(d))
(for continuation/divisional with Box 16 completed)
 - ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

- ☐ Microfiche Computer Program (Appendix)
- Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
 - ☐ Computer Readable Copy
 - ☐ Paper Copy (identical to computer copy)
 - ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

- ☐ Assignment Papers (cover sheet & document(s))
- ☐ 37 C.F.R. § 3.73(b) Statement of Power of Attorney
(when there is an assignee)
- ☐ English Translation Document (if applicable)
- ☐ Information Disclosure Statement (IDS)/PTO-1449 [Copies of IDS Citations]
- ☒ Preliminary Amendment
- ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
- ☐ * Small Entity Statement(s) filed in prior application, Status still proper and desired
(PTO/SB/09-12)
- ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
- ☐ Other:

* NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No. 09,216,578
Prior application information: Examiner Venkat I Group / Art Unit: 1615

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

☒ Customer Number or Bar Code Label 24265 or ☐ Correspondence address below
(Insert Customer No. or Attach bar code label here)

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Reg. No. 35888
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City State Zip Code
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Name (Print/Type) Henry S. Hadad Registration No. (Attorney/Agent) 35888
Signature Date Sept. 29, 2000

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

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Date Sept. 29, 2000

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FEE TRANSMITTAL for FY 2000

Patent fees are subject to annual revision.
 Small Entity payments must be supported by a small entity statement,
 otherwise large entity fees must be paid. See Forms PTO/SB/09-12.
 See 37 C.F.R. §§ 1.27 and 1.28.

TOTAL AMOUNT OF PAYMENT (\$ 690.00)

Complete if Known

Application Number
 Filing Date September 29, 2000
 First Named Inventor James E. McShane
 Examiner Name Venkat, J.
 Group / Art Unit 1615
 Attorney Docket No. FC0807Q1

METHOD OF PAYMENT (check one)

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to

Deposit Account Number 19-0365

Deposit Account Name Schering-Plough Corporation

- ☒ Charge Any Additional Fee Required
 Under 37 CFR §§ 1.16 and 1.17

2. ☐ Payment Enclosed:

☐ Check ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

| Large Entity Fee Code (\$) | Small Entity Fee Code (\$) | Fee Description | Fee Paid |
|----------------------------|----------------------------|------------------------|----------|
| 101 690 | 201 345 | Utility filing fee | 690 |
| 106 310 | 206 155 | Design filing fee | |
| 107 480 | 207 240 | Plant filing fee | |
| 108 690 | 208 345 | Reissue filing fee | |
| 114 150 | 214 75 | Provisional filing fee | |

SUBTOTAL (1) (\$ 690)

2. EXTRA CLAIM FEES

| Total Claims | Extra Claims | Fee from below | Fee Paid |
|--------------------|--------------|----------------|----------|
| 20 | -20** = 0 | X | 0 |
| 3 | -3** = 0 | X | 0 |
| Multiple Dependent | | | |

**or number previously paid, if greater; For Reissues, see below

Large Entity Small Entity

| Large Entity Fee Code (\$) | Small Entity Fee Code (\$) | Fee Description | Fee Paid |
|----------------------------|----------------------------|--|----------|
| 103 18 | 203 9 | Claims in excess of 20 | |
| 102 78 | 202 39 | Independent claims in excess of 3 | |
| 104 260 | 204 130 | Multiple dependent claim, if not paid | |
| 109 78 | 209 39 | ** Reissue independent claims over original patent | |
| 110 18 | 210 9 | ** Reissue claims in excess of 20 and over original patent | |

SUBTOTAL (2) (\$ 0)

FEE CALCULATION (continued)

3. ADDITIONAL FEES

| Large Entity Fee Code (\$) | Small Entity Fee Code (\$) | Fee Description | Fee Paid |
|----------------------------|----------------------------|--|----------|
| 105 130 | 205 65 | Surcharge - late filing fee or oath | |
| 127 50 | 227 25 | Surcharge - late provisional filing fee or cover sheet. | |
| 139 130 | 139 130 | Non-English specification | |
| 147 2,520 | 147 2,520 | For filing a request for reexamination | |
| 112 920* | 112 920* | Requesting publication of SIR prior to Examiner action | |
| 113 1,840* | 113 1,840* | Requesting publication of SIR after Examiner action | |
| 115 110 | 215 55 | Extension for reply within first month | |
| 116 380 | 216 190 | Extension for reply within second month | |
| 117 870 | 217 435 | Extension for reply within third month | |
| 118 1,360 | 218 680 | Extension for reply within fourth month | |
| 128 1,850 | 228 925 | Extension for reply within fifth month | |
| 119 300 | 219 150 | Notice of Appeal | |
| 120 300 | 220 150 | Filing a brief in support of an appeal | |
| 121 260 | 221 130 | Request for oral hearing | |
| 138 1,510 | 138 1,510 | Petition to institute a public use proceeding | |
| 140 110 | 240 55 | Petition to revive - unavoidable | |
| 141 1,210 | 241 605 | Petition to revive - unintentional | |
| 142 1,210 | 242 605 | Utility issue fee (or reissue) | |
| 143 430 | 243 215 | Design issue fee | |
| 144 580 | 244 290 | Plant issue fee | |
| 122 130 | 122 130 | Petitions to the Commissioner | |
| 123 50 | 123 50 | Petitions related to provisional applications | |
| 126 240 | 126 240 | Submission of Information Disclosure Stmt | |
| 581 40 | 581 40 | Recording each patent assignment per property (times number of properties) | |
| 146 690 | 246 345 | Filing a submission after final rejection (37 CFR § 1.129(a)) | |
| 149 690 | 249 345 | For each additional invention to be examined (37 CFR § 1.129(b)) | |

Other fee (specify) _____

Other fee (specify) _____

* Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$)

SUBMITTED BY

Name (Print/Type) Henry S. Hadad

Registration No (Attorney/Agent) 35888

Complete (if applicable)

Telephone 908-298-2906

Signature

Date September 29, 2000

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

Typed or printed name

Signature

Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: James E. McShane :
For Patent for :
FOOT AND SHOE DEODORANT : Examiner: Venkat, J.
Serial No. To be Assigned : Group Art Unit: 1615
Filed: September 29, 2000 :
Date: September 29, 2000

Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

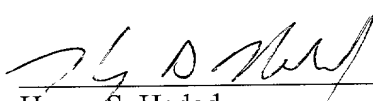
Please amend the specification in the following manner:

Page 1, before "Background" please insert:

--This is a continuation of U.S. Application No. 09/216,578 filed December 18,
1998, which is based on Provisional Application No. 60/068,643, filed December 23,
1997.--

Any questions concerning this submission should be directed to the undersigned
at the telephone number listed below.

Respectfully submitted by



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EXPRESS MAIL LABEL NO.: EL226882949US

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FOOT AND SHOE DEODORANT

Background

According to Robert T. Maleeny and William F. Palmer, Environmental Odor Control, Soap/Cosmetics/Chemical Specialties for January 1991, pp. 28-
10 31, malodors are usually caused by chemicals that are perceived at very low concentrations. Although malodors may not be dangerous to health at low levels, they can affect one's enjoyment of the environment. Maleeny and Palmer disclose that the perfumers of ancient Egypt and Medieval Europe practised masking by deodorizing through the use of perfumes, colognes and
15 sachets. Presently, mild to moderate foot odor is commercially treated with an array of currently marketed products. However, a need exists for a deodorant product which is also effective in the treatment of moderate to severe foot odor. It would also be desirable to provide a deodorant for treating a spectrum of foot and shoe odors, including moderate to severe foot
20 odor.

Summary of the Invention

The present invention is directed toward a pressurized aerosol for treating foot and/or shoe odors comprising:

- 25 a) micronized zinc oxide;
b) a propellant for expelling the contents of the aerosol when the pressure is released; and
c) a solvent.

Optionally and preferably, the aerosol further comprises d) a fragrance
30 to help mask any foot odors and/or provide a more pleasant odor to the foot or shoe. Also optional, the aerosol further comprises e) a thickening agent capable of thickening the mixture of the micronized zinc oxide, the propellant

and the carrier or organic solvent. Also optionally, the aerosol further comprises g) a base to neutralize any organic or inorganic acids.

The present invention is also directed towards a composition or concentrate useful for treating foot and/or shoe odors comprising

- 5 i) micronized zinc oxide;
- ii) at least one solvent;
- iii) at least one fragrance. Optionally, the concentrate may further comprise
- iv) at least one thickening agent. Also optionally, the concentrate may further comprise v) a base to neutralize any organic or inorganic acids.

- 10 The present invention is also directed towards a method for treating foot or shoe odors by applying to said foot or shoe a concentrate comprising:

- i) micronized zinc oxide;
- ii) at least one solvent;
- iii) at least one fragrance.

- 15 The concentrate employed in the present method, optionally, may further comprise iv) at least one thickening agent. Also optionally, the concentrate employed in the present method may further comprise v) a base to neutralize any organic or inorganic acids. Preferably, the concentrate is contained within an pressurized aerosol and admixed with a propellant for expelling the
- 20 contents of the aerosol when the pressure is released.

The present invention has the advantage of providing an aerosol and concentrate which are highly effective for treating foot and/or shoe odors.

- 25 Another advantage of the present invention is that it provides an aerosol and concentrate for treating foot and/or shoe odors that is easy to apply.

Another advantage of the present invention is that it provides an aerosol, a concentrate and a method for treating foot and/or shoe odors that

effectively treats or reduces foot odors faster and more rapidly than other known methods or compositions.

Another advantage of the present invention is that it provides an aerosol and concentrate for treating foot and/or shoe odors that may have a
5 reduced tendency to clog the nozzle or dispenser of the aerosol compared with other known compositions.

And still yet another advantage of the present invention is that it provides an aerosol and concentrate for treating foot and shoe odors that effectively eliminates or controls foot wetness faster or more rapidly than other
10 known compositions.

Detailed Description of the Invention

As used in the present specification, the terms "controlling" and "reducing," with regard to treating foot odor, are used interchangeably.
15 Except as noted, the percentage of ingredients in the composition employed in the aerosol (including propellant) is by weight percent. However, the percentage of ingredients in the composition without the propellant (i.e. the concentrate) can be determined by recalculating the percentages of the ingredients.

20 Microcronized zinc oxide is employed in amounts effective for treating foot and/or shoe odors. Such amounts in the aerosol can range from about 0.5 to about 15% by weight in the composition of the aerosol, preferably from about 2 to about 12% by weight, more preferably from about 3 to about 10% by weight. Without or absent the propellant, the amount of micronized zinc in
25 the concentrate can range from about one to about 90% by weight, preferably from about 10 to about 50% by weight, more preferably from about 15 to about 45% by weight. Physically, micronized zinc oxide is a white, odorless powder comprised of loosely aggregated ultra fine nanometer particles. The average particle size of the micronized zinc oxide can range from about 26 to

about 46 nanometers (nm), preferably from about 30 to about 40 nanometers, more preferably about 35 to about 37 nm, most preferably about 36 nm. The specific surface area can range from about 20 to about 40 meters squared per gram (m^2/g), preferably from about 25 to about 35 m^2/g , more preferably about 30 m^2/g , using a test method of gas absorption, such as, for example, the Breunerhauer, Emmett, Edward and Teller (BEET) theory for measurement of surface area based upon absorption of gases to surfaces.

The micronized zinc oxide should be applied to the foot and/or shoe in an amount effective to reduce foot and/or shoe odors. Such amounts can range from about 5 to about 250 milligrams of micronized zinc oxide per foot or shoe, preferably from about 50 to about 150 milligrams of micronized zinc oxide. Micronized zinc oxide is commercially available as for example from Nanophase Technologies Corporation, Burr Ridge, Illinois. Alternatively, micron-sized particles of zinc oxide can be obtained during the manufacture of the zinc oxide. Where micronizing techniques are employed, the zinc oxide may be micronized to the desired particle size range by conventional techniques, for example, using a ball mill, ultrasonic means, or preferably using fluid energy attrition mills such as the trost fluid energy mill from Plastomer Products, Newton, Pennsylvania 18940. When using a fluid energy attrition mill, the desired particle size can be obtained by varying the feed rate of the zinc oxide into the mill. Preferably, the micronized zinc oxide is of sufficient quality to meet or comply with appropriate government regulations.

The propellant is the gas in the aerosol canister or pressure bottle for expelling the contents when the pressure is released. The gas or gases should have a sufficiently high vapor pressure in the aerosol canister to pressurize the contents of the canister to expel the composition from the aerosol canister. Suitable propellants include ethers such as dimethyl ether (DME); and aliphatic hydrocarbons such as the C_3 to C_5 hydrocarbons,

including propane, butane, n-butane, isobutane or mixtures thereof. Such propellants, individually, have vapor pressures ranging from about 17 to about 100 psig at 70°F, preferably from about 25 to about 50 psig at 70°F. The amount of propellant in the aerosol can range from about 10 to about 90% (wt), preferably from about 40 to about 85%, more preferably from about 65 to about 80%, most preferably about 70 to about 77%.

The solvent can be any substance capable of carrying and/or maintaining the micronized zinc oxide and other ingredients in the composition in a substantially uniform mixture or suspension for uniform expulsion and dissipation from from the aerosol canister to the target foot and/or shoe. Suitable solvent can include water; and organic solvents capable of evaporating from the skin or shoe surface such as C₁ to C₃ alcohols, including methanol, ethanol, propanol and isopropanol. The solvent is used in amounts effective to carry and/or maintain the micronized zinc oxide and other ingredients in the composition in a substantially uniform mixture or suspension in the presence of a pressurizing propellant. The amount of solvent in the composition of the aerosol can from about zero to about 80 percent, preferably from about 4 to about 50 percent, more preferably from about 5 to about 20 percent. Without the propellant, the amount of solvent in the composition or concentrate can range from about zero (0) to about 80% by weight, more preferably from about 20 to about 75%.

Optionally, a fragrance (an aromatic compound) can be added to the composition or aerosol to impart an aesthetically pleasing aroma to the composition or aerosol and to mask any foot and shoe odors. Typical fragrances include aromatic materials extracted from botanical sources (i.e. rose petals, gardenia blossoms, jasmine flowers, etc.) which can be used alone or in any combination to create essential oils. Alternatively, alcoholic extracts may be prepared for compounding fragrances. The fragrance may

also be encapsulated. One or more fragrances can optionally be included in the aerosol in an amount ranging from about 0 to about 5 percent, preferably from about 0.01 to about 5 weight percent, also preferably about 0.1 to about 3 percent, more preferably from about 0.2 to about 2.5 percent. Without the propellant, the amount of fragrance in the composition or concentrate can range from about zero to about 15% by weight, preferably from about one to about 11%.

Optionally, a thickening agent can also be added to the composition or aerosol to thicken the contents of the aerosol, including the micronized zinc oxide, the solvent solvent and any other ingredients, to maintain more uniformly or homogenously the ingredients in the aerosol. Suitable thickening agents include Bentone® thickener which is an organically modified hectorite (marketed by Rheox Inc. of Hightstown, New Jersey), fatty alcohols such as cetyl, lauryl, stearyl, and the like; soaps such as sodium stearate, sodium myristate and the like, bentonite, cellulosic ethers such as methyl cellulose, sodium cellulose glycollate (sodium carboxymethyl cellulose), silica gel, alumina gel or mixtures thereof. A thickening agent may optionally be included in the composition of the aerosol in an amount ranging from about 0 to about 1 percent, preferably from about 0.1 to about 1 percent, more preferably from about 0.2 to about 1 percent. Without the propellant, the amount of thickening agent in the concentrate can range from about 0.1 to about 5% by weight, more preferably from about 0.2 to about 3%.

Optionally, a base may be added to neutralize any organic or inorganic acids present on the foot or shoe interior. Suitable bases include alkaline earth oxides such as calcium oxide and magnesium oxide; carbonates such as sodium carbonate and sodium bicarbonate; and organic bases such as triethanolamine and aminoethylpropanol (AMP). The base may optionally be included in the composition of the aerosol in an amount ranging from about 0

to about 10 percent, preferably from about one to about 5 percent. Without the propellant, the amount of base in the composition or concentrate can range from about zero to about 30% by weight, more preferably from about 5 to about 25%.

- 5 The aerosol container or can may be made of any suitable material capable of being pressurized with the propellant. Such materials can include rolled steel, aluminum, tin and mixtures or alloys thereof.

- 10 The following examples describe embodiments of the present invention which may be practised, but they are not to be interpreted as limiting the scope of the claims.

Example 1. Foot Deodorant Aerosol

| Ingredient | % wt/wt basis in aerosol (with propellant) | % wt/wt basis in concentrate (no propellant) |
|-----------------------|--|--|
| Isobutane Propellant | 77.00 | 0.00 |
| Micronized Zinc Oxide | 4.25 | 18.5 |
| Ethyl Alcohol | 17.22 | 75.0 |
| Sodium Bicarbonate | 1.28 | 5.5 |
| Fragrance | 0.25 | 1.0 |
| TOTAL | 100.0 | 100.0 |

- 15 To an explosion proof jacketed batch tank, mix about two-thirds of the ethyl alcohol and the sodium bicarbonate. Pass the mixture through a colloid mill. Mix in the remaining ethyl alcohol, the micronized zinc oxide and the fragrance to form a concentrate. Pass the concentrate through a colloid mill and fill an aerosol can with 23% concentrate and 77% isobutane propellant.

Example 2. Foot Deodorant Aerosol

| Ingredient | % wt/wt basis in aerosol (with propellant) | % wt/wt basis in concentrate (no propellant) |
|-----------------------|---|---|
| Isobutane Propellant | 77.0 | 0.0 |
| Micronized Zinc Oxide | 10.0 | 43.5 |
| Ethyl Alcohol | 6.0 | 26.0 |
| Sodium Bicarbonate | 4.0 | 17.5 |
| Bentone | 0.5 | 2.1 |
| Fragrance | 2.5 | 10.9 |
| TOTAL | 100.0 | 100.0 |

Essentially the same procedure as in Example 1 is employed, except that

- 5 Bentone is added to the concentrate and the percentages of the remaining ingredients are modified.

Example 3. Testing the Aerosol

Protocol. A study was conducted to evaluate the effectiveness of the aerosol

- 10 foot deodorant of Example 1 in reducing foot odor of at least moderate severity. Subjects were selected with particularly intense foot odor. Subjects discontinued the use of all foot products at least 48 hours prior to enrollment. They chose a pair of shoes (or sneakers) to wear for at least 8 hours each day and wore the same type of socks/hosiery throughout the study. Odor was
- 15 scored in accordance with an 11-point malodor intensity scale ranging from zero to 10. In this scale, an average malodor score of zero is none or no odor, 5 is moderate odor, 7 is moderately strong odor, 8 is strong odor and 10 is extremely strong odor. Subjects applied aerosol spray cans containing the propellant formulation of Example 1 once each day, in the morning before
- 20 dressing, to the foot and the corresponding shoe. When applied to the foot, the aerosol was applied to the sole and between the toes. When applied to the shoe, the aerosol was applied to the entire inside area of the shoe that

goes on the foot. Foot, shoe and sock odors were evaluated on the first (baseline), third and eighth day.

Results. Significant reductions in average overall (moderate and severe) odor scores were achieved for shoe odor by the third day and for foot, shoe, sock
5 and combined odor scores by the eighth day. Also, the aerosol was also able to significantly eliminate foot wetness. The aerosol significantly prevent foot odor before it started when applied to clean feet. The aerosol also significantly prevented foot wetness before it started when applied to dry feet. The aerosol also significantly kept foot wetness under control throughout the
10 day. The results show that an aerosol containing micronized zinc oxide was highly effective in controlling moderate to severe foot odors.

CLAIMS

1. A pressurized aerosol for treating foot and/or shoe odors comprising:
 - a) micronized zinc oxide;
 - b) a propellant for expelling the contents of the aerosol when the
- 5 pressure is released; and
 - c) a solvent.
2. The aerosol of claim 1 wherein the amount of micronized zinc oxide in the aerosol is in the range from about 0.5 to about 15% by weight.
3. The aerosol of claim 1 wherein the amount of micronized zinc oxide in the
- 10 aerosol is in the range from about 2 to about 12% by weight.
4. The aerosol of claim 1 wherein the amount of micronized zinc oxide in the aerosol is in the range from about 3 to about 10% by weight.
5. The aerosol of claim 1 wherein the average particle size of the micronized zinc oxide is in the range from about 26 to about 46 nanometers.
- 15 6. The aerosol of claim 1 wherein the average particle size of the micronized zinc oxide is in the range from about 30 to about 40 nanometers.
7. The aerosol of claim 1 wherein the average particle size of the micronized zinc oxide is in the range from about 35 to 37 nanometers.
8. The aerosol of claim 1, further comprising
- 20 d) a fragrance to help mask any foot odors and/or provide a more pleasant odor to the foot or shoe.
9. The aerosol of claim 8, further comprising
 - e) a thickening agent capable of thickening the contents of the aerosol.
10. The aerosol of claim 9, further comprising
- 25 g) a base to help neutralize any organic or inorganic acids.
11. A concentrate useful for treating foot and/or shoe odors comprising
 - i) micronized zinc oxide;
 - ii) at least one solvent;
 - iii) at least one fragrance.

12. The concentrate of claim 11 wherein the amount of micronized zinc oxide in the concentrate is in the range from about 1 to about 90% by weight.

13. The concentrate of claim 11 wherein the amount of micronized zinc oxide in the concentrate is in the range from about 10 to about 50% by weight.

5 14. The concentrate of claim 11 wherein the amount of micronized zinc oxide in the concentrate is in the range from about 15 to about 45% by weight.

15. The concentrate of claim 11 further comprising
iv) at least one thickening agent.

16. The concentrate of claim 15 further comprises

10 v) a base to neutralize any organic or inorganic acids.

17. A method for treating foot or shoe odors by applying to said foot or shoe a concentrate comprising:

i) micronized zinc oxide;

ii) at least one solvent;

15 iii) at least one fragrance.

18. The method of claim 17 further comprising
iv) at least one thickening agent.

19. The method of claim 18 further comprising
v) a base to neutralize any organic or inorganic acids.

20 20. The method of claim 17 wherein said concentrate is contained within an pressurized aerosol and admixed with a propellant for expelling the contents of the aerosol when the pressure is released.

ABSTRACT

A pressurized aerosol and concentrate are described for treating moderate to severe foot and/or shoe odors. The aerosol contains micronized zinc oxide, a propellant and a solvent. Optionally, the aerosol may also contain a fragrance, a thickening agent and/or a base.

DECLARATION AND POWER OF
ATTORNEY FOR PATENT APPLICATION

Attorney's Docket No. FC0807Q

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

"FOOT AND SHOE DEODORANT"

the specification of which

☐ is attached hereto.

☒ was filed on December 18, 1998 as Application Serial No. 09/216,578

and was amended on _____ (if applicable).

☐ was filed on _____ as PCT International Application No. _____

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s):

Priority Claimed

| | | | |
|-------------------|--------------------|---------------------------------|--------------------|
| _____ (Number) | _____ (Country) | _____ (Day/Month/Year Filed) | _____ Yes or No |
|-------------------|--------------------|---------------------------------|--------------------|

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below:

| | |
|---|---|
| <u>60/068,643</u> (Application Number) | <u>December 23, 1997</u> (Filing Date) |
|---|---|

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

| | | |
|-----------------------------------|------------------------|--|
| _____ (Application Serial No.) | _____ (Filing Date) | _____ (Status – patented, pending, abandoned) |
|-----------------------------------|------------------------|--|

Power of Attorney: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in Patent and Trademark Office connected therewith. (List name and registration number.)

| | |
|--------------------------|-----------------|
| Joseph T. Majka | Reg. No. 30570 |
| Arthur Mann | Reg. No. 35598 |
| Edward H. Mazer | Reg. No. 27573 |
| Jaye P. McLaughlin | Reg. No. 41211 |
| Sheela Mohan-Peterson | Reg. No. 41201 |
| Richard B. Murphy | Reg. No. 35296 |
| James R. Nelson | Reg. No. 27929 |
| Immac J. Thampoe | Reg. No. 36322 |
| Paul A. Thompson | Reg. No. 35385 |
| Donald W. Wyatt | Reg. No. 40,876 |
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| | | | |
|-----------------------------------|-------------------------|--------------------------|--------------------------|
| FULL NAME OF 1ST OR SOLE INVENTOR | FAMILY NAME | FIRST GIVEN NAME | SECOND GIVEN NAME |
| | McShane | James | E. |
| RESIDENCE & CITIZENSHIP | CITY | STATE OR FOREIGN COUNTRY | COUNTRY OF CITIZENSHIP |
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| | 3110 Raleigh Ridge Cove | Memphis | Tennessee 38128 |

Signature of First Inventor
James C. M. Lane
Date
MARCH 11, 1999